

Serial 10/419746

June 21, 2004

File 47:Gale Group Magazine DB(TM) 1959-2004/Jun 18
 File 148:Gale Group Trade & Industry DB 1976-2004/Jun 21
 File 16:Gale Group PROMT(R) 1990-2004/Jun 21
 File 160:Gale Group PROMT(R) 1972-1989
 File 621:Gale Group New Prod.Annou.(R) 1985-2004/Jun 21
 File 649:Gale Group Newswire ASAP(TM) 2004/Jun 18
 File 570:Gale Group MARS(R) 1984-2004/Jun 21
 File 636:Gale Group Newsletter DB(TM) 1987-2004/Jun 18
 File 9:Business & Industry(R) Jul/1994-2004/Jun 18
 File 20:Dialog Global Reporter 1997-2004/Jun 21
 File 727:Canadian Newspapers 1990-2004/Jun 21
 File 993:NewsRoom 2002
 File 619:Asia Intelligence Wire 1995-2004/Jun 20
 File 995:NewsRoom 2000
 File 112:UBM Industry News 1998-2004/Jan 27
 File 262:CBCA Fulltext 1982-2004/May
 File 781:ProQuest Newsstand 1998-2004/Jun 21
 File 141:Readers Guide 1983-2004/Jun
 File 710:Times/Sun.Times(London) Jun 1988-2004/Jun 19
 File 728:Asia/Pac News 1994-2004/Jun W2
 File 635:Business Dateline(R) 1985-2004/Jun 19

Set Items Description

S1 456662 BRUSH OR BRUSHES OR MASCARABRUSH? OR MASCARA()BRUSH? ? OR -
 HAIRBRUSH? OR TOOTHBRUSH? OR BOTTLEBRUSH? OR NAILBRUSH? OR PA-
 INTBRUSH?
 S2 3034320 TWIST? OR WOUND OR WRAP? OR TWINE? OR TWINING OR SPIRAL? OR
 WINDING
 S3 1577749 FIBER? ? OR FIBRE? ? OR FIBROUS OR FILAMENT? ? OR BRISTLE? ?
 S4 30054772 CORE OR CORES OR CENTER? ? OR CENTRE? ? OR CENTRAL OR MIDDLE
 S5 312382 DIAMETER? ? OR DIAMETRE? ?
 S6 2074902 MIL OR MILS
 S7 7526260 WIRE OR WIRES
 S8 12670 S2(1N)S7
 S9 123 S1(S)S8
 S10 24 S3(S)S9
 S11 159212 CROSS()SECTION???
 S12 1 S10(S)(S5 OR S6 OR S11)
 S13 61 S1/TI,DE AND S3(S)S6
 S14 0 S8 AND S13
 S15 0 S13 AND (S2 OR S7)
 S16 51 RD S13 (unique items)
 S17 51 Sort S16/ALL/PD,A
 S18 3731 MASCARA(S)BRUSH??
 S19 1 S18(S)S2(S)S6 [not relevant]
 S20 218 S18(S)S2
 S21 77 S20(S)S3
 S22 12351 S3(5N)(S5 OR S6 OR S11)
 S23 0 S20(S)S22
 S24 0 S20 AND S22

12/3,AB,K/1 (Item 1 from file: 148)

DIALOG(R)File 148:Gale Group Trade & Industry DB

(c)2004 The Gale Group. All rts. reserv.

01896582 SUPPLIER NUMBER: 02923189 (USE FORMAT 7 OR 9 FOR FULL TEXT)

Brushes.

Institutional Distribution, p17(4)

Sept 15, 1983

ISSN: 0020-3572 LANGUAGE: ENGLISH RECORD TYPE: FULLTEXT
WORD COUNT: 2452 LINE COUNT: 00184

... and **twisted wire** construction with an end tuft. They are usually about three inches in **diameter**, tapering to about one inch at the tip. The end tuft is about an inch...

17/8/4 (Item 4 from file: 160)

DIALOG(R) File 160:(c) 1999 The Gale Group. All rts. reserv.
01736070

Toothbrush **gets tobacco tie-in**

August 24, 1987

COMPANY: *Lactona
PRODUCT: *Toothbrushes (3991321)
EVENT: *Product Design & Development (33)
COUNTRY: *United States (1USA)

17/8/10 (Item 10 from file: 570)

DIALOG(R) File 570:(c) 2004 The Gale Group. All rts. reserv.
01204912 Supplier Number: 42200989

DENTAL CARE: Oral-B brand recommends a brush change

July 4, 1991

PUBLISHER NAME: Haymarket Publishing Ltd.
COMPANY NAMES: *Gillette Industries
EVENT NAMES: *480 (Use of services); 610 (Contracts & orders received);
330 (Product information)
GEOGRAPHIC NAMES: *4UK (n/a); 00WOR (World)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: ADV (Advertising, Marketing and Public Relations); BUSN
(Any type of business); INTL (Business, International)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
TRADE NAMES: Oral-B Indicator
SPECIAL FEATURES: COMPANY
ADVERTISING AGENCY: Abbott Mead Vickers; BBDO Network
ADVERTISING CODES: 52 Advertising Activity; 42 Account Activity; 57
New Products/Services; 84 Global Marketing

17/8/11 (Item 11 from file: 16)

DIALOG(R) File 16:(c) 2004 The Gale Group. All rts. reserv.
01929690 Supplier Number: 42461120

CREST COMPLETE TOOTHBRUSH

Oct 22, 1991

PUBLISHER NAME: Marketing Intelligence Service Ltd.
COMPANY NAMES: *Procter and Gamble Co.
EVENT NAMES: *330 (Product information); 650 (Sales & consumption)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and
Cosmetics)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
TICKER SYMBOLS: PG
TRADE NAMES: Crest Complete Toothbrush; Reach; Oral-B
SPECIAL FEATURES: COMPANY
ADVERTISING CODES: 57 New Products/Services; 85 Industry Market Data

17/8/12 (Item 12 from file: 16)

ASRC Searcher: Jeanne Horrigan
Serial 10/419746
June 21, 2004

3

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02048020 Supplier Number: 42644669

Oral-B Polishes Sales With Blue Dye

Jan 2, 1992

PUBLISHER NAME: San Francisco Newspaper Agency

COMPANY NAMES: *Oral B Laboratories

EVENT NAMES: *330 (Product information)

GEOGRAPHIC NAMES: *1U9CA (California)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); REG (Business, Regional)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

SPECIAL FEATURES: COMPANY

17/8/13 (Item 13 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02166351 Supplier Number: 42816901

New toothbrush designs boost sales

March 9, 1992

PUBLISHER NAME: Racher Press, Inc.

COMPANY NAMES: *BioBrush

EVENT NAMES: *650 (Sales & consumption); 330 (Product information)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and
Cosmetics); RETL (Retailing)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

SPECIAL FEATURES: COMPANY

17/8/14 (Item 14 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02255790 Supplier Number: 42945528

Dentrust Toothbrush

April 28, 1992

PUBLISHER NAME: Marketing Intelligence Service Ltd.

COMPANY NAMES: *Oral Logic Inc.

EVENT NAMES: *330 (Product information)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and
Cosmetics)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

TRADE NAMES: Dentrust; Ultralon; Nylon

SPECIAL FEATURES: COMPANY

ADVERTISING CODES: 57 New Products/Services; 55 Company Planning/Goals

17/8/15 (Item 15 from file: 570)

DIALOG(R)File 570:(c) 2004 The Gale Group. All rts. reserv.
01285675 Supplier Number: 43011485

DENTAL HYGIENE: Reflex response from Wisdom

May 21, 1992

PUBLISHER NAME: Haymarket Publishing Ltd.

COMPANY NAMES: *Addis Company Inc.

EVENT NAMES: *330 (Product information); 480 (Use of services); 610 (Contracts & orders received); 650 (Sales & consumption)

GEOGRAPHIC NAMES: *4EUUK (United Kingdom)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: ADV (Advertising, Marketing and Public Relations); BUSN
(Any type of business); INTL (Business, International)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
TRADE NAMES: Wisdom REFLEX
SPECIAL FEATURES: COMPANY
ADVERTISING AGENCY: BBH; Ayer Barker
ADVERTISING CODES: 57 New Products/Services; 52 Advertising Activity;
42 Account Activity; 55 Company Planning/Goals; 85 Industry Market
Data; 21 Television; 20 Media Use

17/8/16 (Item 16 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02304041 Supplier Number: 43015073

Former barber spends retirement marketing his upscale toothbrushes
May 24, 1992

PUBLISHER NAME: Pittsburgh Business Times
COMPANY NAMES: *Eglar-Buhl
EVENT NAMES: *330 (Product information)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: BUSN (Any type of business); REG (Business, Regional)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
SPECIAL FEATURES: COMPANY

17/8/17 (Item 17 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02417202 Supplier Number: 43181300

P&G introduces Crest toothbrush

July 28, 1992

PUBLISHER NAME: Cincinnati Enquirer
COMPANY NAMES: *Procter and Gamble Co.
EVENT NAMES: *330 (Product information)
GEOGRAPHIC NAMES: *1U3OH (Ohio)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: BUSN (Any type of business); REG (Business, Regional)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
TICKER SYMBOLS: PG
SPECIAL FEATURES: COMPANY

17/8/18 (Item 18 from file: 570)

DIALOG(R)File 570:(c) 2004 The Gale Group. All rts. reserv.
01318674 Supplier Number: 43335719

Colgate Rolls-Out New Toothbrush

Oct, 1992

PUBLISHER NAME: Magazines/Creative Inc.
COMPANY NAMES: *Colgate-Palmolive Co.
EVENT NAMES: *330 (Product information); 240 (Marketing procedures); 650
(Sales & consumption)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: ADV (Advertising, Marketing and Public Relations); BUSN
(Any type of business)
NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)
TICKER SYMBOLS: CL
TRADE NAMES: Colgate Precision; Colgate
SPECIAL FEATURES: illustration; photograph

SPECIAL FEATURES: COMPANY
ADVERTISING CODES: 57 New Products/Services; 79 Promotion; 85
Industry Market Data; 51 Positioning

17/8/19 (Item 19 from file: 16)
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02593289 Supplier Number: 43444682
TODAY'S TOOTHBRUSHES : 'IMPROVED' AND PRICEY
Nov 10, 1992
PUBLISHER NAME: Dow Jones & Company, Inc.
EVENT NAMES: *650 (Sales & consumption)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: BUS (Business, General); BUSN (Any type of business)
NAICS CODES: 339994 (Broom, **Brush** , and Mop Manufacturing)

17/8/20 (Item 20 from file: 16)
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02614222 Supplier Number: 43475043
COLGATE PRECISION TOOTHBRUSH
Nov 24, 1992
PUBLISHER NAME: Marketing Intelligence Service Ltd.
COMPANY NAMES: *Colgate-Palmolive Co.
EVENT NAMES: *330 (Product information)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes)
INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and
Cosmetics)
NAICS CODES: 339994 (Broom, **Brush** , and Mop Manufacturing)
TICKER SYMBOLS: CL
TRADE NAMES: COLGATE PRECISION TOOTHBRUSH
SPECIAL FEATURES: COMPANY
ADVERTISING CODES: 57 New Products/Services; 52 Advertising Activity;
20 Media Use

17/8/21 (Item 21 from file: 16)
DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.
02681729 Supplier Number: 43578693
REACH BETWEEN TOOTHBRUSH
Jan 12, 1993
PUBLISHER NAME: Marketing Intelligence Service Ltd.
COMPANY NAMES: *Johnson and Johnson
EVENT NAMES: *330 (Product information); 650 (Sales & consumption)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *3991321 (Toothbrushes); 5411100 (Supermarkets);
5912000 (Drug Stores)
INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and
Cosmetics)
NAICS CODES: 339994 (Broom, **Brush** , and Mop Manufacturing); 44511 (
Supermarkets and Other Grocery (except Convenience) Stores); 44611 (
Pharmacies and Drug Stores)
TICKER SYMBOLS: JNJ
TRADE NAMES: REACH BETWEEN TOOTHBRUSH; Reach
SPECIAL FEATURES: LOB; COMPANY
ADVERTISING CODES: 57 New Products/Services; 85 Industry Market Data;
55 Company Planning/Goals

Serial 10/419746

June 21, 2004

17/8/22 (Item 22 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

02710042 Supplier Number: 43622180

Toothbrushes get increased attention

Feb 1, 1993

PUBLISHER NAME: Racher Press, Inc.

EVENT NAMES: *650 (Sales & consumption)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and Cosmetics); RETL (Retailing)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)**17/8/23 (Item 23 from file: 16)**

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

02847884 Supplier Number: 43832982

NuBrush Antibacterial Toothbrush Spray

May 11, 1993

PUBLISHER NAME: Marketing Intelligence Service Ltd.

COMPANY NAMES: *Applied Microdentics

EVENT NAMES: *330 (Product information); 240 (Marketing procedures)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *2844490 (Misc Dentifrices)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and Cosmetics)

NAICS CODES: 32562 (Toilet Preparation Manufacturing)

TRADE NAMES: NuBrush Antibacterial Toothbrush Spray

SPECIAL FEATURES: COMPANY

ADVERTISING CODES: 57 New Products/Services; 74 Campaign Launched; 52 Advertising Activity; 26 Point-of-Purchase Displays

17/8/24 (Item 24 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

02847883 Supplier Number: 43832981

JORDAN MAGIC TOOTHBRUSH

May 11, 1993

PUBLISHER NAME: Marketing Intelligence Service Ltd.

COMPANY NAMES: *Dep Corp.

EVENT NAMES: *380 (Strategic alliances); 650 (Sales & consumption)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and Cosmetics)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

TICKER SYMBOLS: DEPC

TRADE NAMES: Jordan Magic Toothbrush

SPECIAL FEATURES: COMPANY

ADVERTISING CODES: 57 New Products/Services; 85 Industry Market Data

17/8/26 (Item 26 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

03041300 Supplier Number: 44134858

THERE'S MONEY WHERE THEIR MOUTHS ARE

Oct, 1993

PUBLISHER NAME: Howfrey Communications LLC

EVENT NAMES: *690 (Goods & services distribution); 650 (Sales & consumption)
GEOGRAPHIC NAMES: *1USA (United States)
PRODUCT NAMES: *2844400 (Mouthwashes & Dentifrices); 5411100 (Supermarkets); 3991321 (Toothbrushes)
INDUSTRY NAMES: BUSN (Any type of business); FOOD (Food, Beverages and Nutrition); RETL (Retailing)
NAICS CODES: 32562 (Toilet Preparation Manufacturing); 44511 (Supermarkets and Other Grocery (except Convenience) Stores); 339994 (Broom, **Brush**, and Mop Manufacturing)
ADVERTISING CODES: 85 Industry Market Data

17/8/27 (Item 27 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

03073083 Supplier Number: 44183772

Health concerns, product intros drive sales in toothbrush arena

Oct 25, 1993

PUBLISHER NAME: Racher Press, Inc.

EVENT NAMES: *650 (Sales & consumption)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and Cosmetics); RETL (Retailing)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

17/8/28 (Item 28 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

03159638 Supplier Number: 44316415

COLGATE COLOR CHANGE TOOTHBRUSH

Dec 28, 1993

PUBLISHER NAME: Marketing Intelligence Service Ltd.

COMPANY NAMES: *Colgate-Palmolive Co.

EVENT NAMES: *330 (Product information); 650 (Sales & consumption); 430 (Capital expenditures)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes); 7310000 (Advertising Services)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and Cosmetics)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing); 5418 (Advertising and Related Services)

TICKER SYMBOLS: CL

TRADE NAMES: Colgate Color Change Toothbrush

SPECIAL FEATURES: INDUSTRY; COMPANY

ADVERTISING CODES: 57 New Products/Services

17/8/29 (Item 29 from file: 16)

DIALOG(R)File 16:(c) 2004 The Gale Group. All rts. reserv.

03179956 Supplier Number: 44349593

ORAL-B ADVANTAGE PLAQUE REMOVER

Jan 11, 1994

PUBLISHER NAME: Marketing Intelligence Service Ltd.

COMPANY NAMES: *Oral B Laboratories

EVENT NAMES: *330 (Product information); 480 (Use of services)

GEOGRAPHIC NAMES: *1USA (United States)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: BUSN (Any type of business); DRUG (Pharmaceuticals and

Serial 10/419746

June 21, 2004

Cosmetics)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

TRADE NAMES: Oral-B Advantage Plaque Remover

SPECIAL FEATURES: COMPANY

ADVERTISING CODES: 52 Advertising Activity; 57 New Products/Services

17/8/30 (Item 30 from file: 570)

DIALOG(R)File 570:(c) 2004 The Gale Group. All rts. reserv.

01416497 Supplier Number: 44433829

Top toothbrush to clean up in UK

Feb 11, 1994

PUBLISHER NAME: Centaur Publishing Ltd.

COMPANY NAMES: *Colgate-Palmolive Ltd.

EVENT NAMES: *650 (Sales & consumption); 240 (Marketing procedures); 330

(Product information)

GEOGRAPHIC NAMES: *1USA (United States); 4EUUK (United Kingdom)

PRODUCT NAMES: *3991321 (Toothbrushes)

INDUSTRY NAMES: ADV (Advertising, Marketing and Public Relations); BUSN

(Any type of business); INTL (Business, International)

NAICS CODES: 339994 (Broom, **Brush**, and Mop Manufacturing)

TRADE NAMES: Precision

SPECIAL FEATURES: COMPANY

ADVERTISING AGENCY: Young & Rubicam (UK)

ADVERTISING CODES: 52 Advertising Activity; 74 Campaign Launched; 83
Psychographics; 85 Industry Market Data; 57 New Products/Services**17/8/31 (Item 31 from file: 9)**

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1065241 Supplier Number: 01065241

Innovation brings life to toothbrush arena

October 24, 1994

COMPANY NAMES: COLGATE-PALMOLIVE CO; GILLETTE CO (THE); ORAL LOGIC;

SMITHKLINE BEECHAM CONSUMER BRANDS (SMITHKLINE BEECHAM PLC)

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: All market information; Market share; Market size; Trends

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/33 (Item 33 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1240567 Supplier Number: 01240567

AJAY HOME PRODUCTS - BRUSHING CLEAN A WINNING SMILE

July 17, 1995

COMPANY NAMES: AJAY HOME PRODUCTS

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: All company; All market information; All product and
service information; Corporate strategy; Exports; Market share; Market
size; Product development

GEOGRAPHIC NAMES: India (IND); Southern & Eastern Asia (SSAX)

17/8/34 (Item 34 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1356668 Supplier Number: 01356668

Mentadent System Oral Care Brush

December 12, 1995

COMPANY NAMES: CHESEBROUGH-POND'S USA CO (UNILEVER NV)

INDUSTRY NAMES: Personal care products

PRODUCT NAMES: Toothpaste, tooth powder and denture cleaners (284490);
Brushes NEC (399193)
CONCEPT TERMS: All market information; All product and service information
; Product introduction; Sales
MARKETING TERMS: All product marketing; Line extensions
BRAND NAMES: Mentadent System Oral Care Brush
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/35 (Item 35 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
1372001 Supplier Number: 01372001 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Mentadent toothbrush gets \$26M launch
January 01, 1996
WORD COUNT: 321
COMPANY NAMES: CHESEBROUGH-POND'S INC (UNILEVER NV); COLGATE-PALMOLIVE CO
; PROCTER & GAMBLE CO
INDUSTRY NAMES: Personal care products
PRODUCT NAMES: Toothpaste, tooth powder and denture cleaners (284490);
Brushes NEC (399193)
CONCEPT TERMS: All market information; All product and service information
; Marketing campaign; Market share; Market size; Product introduction
MARKETING TERMS: All campaign; All product marketing; Coupons;
Premium-luxury products; New campaign
BRAND NAMES: Mentadent Oral Care Brush
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/36 (Item 36 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
1474740 Supplier Number: 01474740
New oralcare products for Colgate
April 25, 1996
COMPANY NAMES: COLGATE-PALMOLIVE CO
PRODUCT NAMES: Brushes NEC (399193)
CONCEPT TERMS: Ad budget; All company; All market information; All product
and service information; Market share; Product introduction; Youth market
MARKETING TERMS: All media; All product marketing;
Positioning-repositioning; Sales promotion; Ad volume
BRAND NAMES: Colgate Plus; Colgate Plus Ultra Fit Compact; Colgate Total
Youth
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/37 (Item 37 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
1475782 Supplier Number: 01475782 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Brushing up
April 27, 1996
WORD COUNT: 614
COMPANY NAMES: COLGATE-PALMOLIVE LTD (COLGATE-PALMOLIVE CO); DENT-O-CARE
LTD; SMITHKLINE BEECHAM PLC; STAFFORD-MILLER (NZ) LTD; WISDOM
PRODUCT NAMES: Brushes NEC (399193)
CONCEPT TERMS: Ad budget; All company; All market information; Market
share; Market size; Sales
MARKETING TERMS: All media; Ad volume
BRAND NAMES: Advantage Control Grip; Aquafresh Flex; Oral B; Oral Spring;
Sensodyne Search; Superbrush; Wisdom
GEOGRAPHIC NAMES: European Union (EUCX); United Kingdom (UNK); Western

Europe (WEEX)

17/8/38 (Item 38 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1493255 Supplier Number: 01493255

Reach Toothbrush with Plaque Sweeper

May 14, 1996

COMPANY NAMES: JOHNSON & JOHNSON; MCNEIL-PPC INC (JOHNSON & JOHNSON)

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: Ad budget; All company; All market information; All product and service information; Market share; Market size; Product introduction; Sales; Trends

MARKETING TERMS: All media; All product marketing; All research; Consumer behavior; Public opinion; Positioning-repositioning; Ad volume

BRAND NAMES: Aquafresh; Colgate; Crest; Johnson & Johnson; Mentadent Toothbrush; Oral-B; Reach Toothbrush with Plaque Sweeper

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/39 (Item 39 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1797459 Supplier Number: 01797459

Colgate Wave Toothbrush

April 08, 1997

COMPANY NAMES: COLGATE-PALMOLIVE CO

INDUSTRY NAMES: Household appliances

PRODUCT NAMES: Small electric household appliances and parts NEC (363495); Brushes NEC (399193)

CONCEPT TERMS: All market information; All product and service information; Product introduction; Sales

BRAND NAMES: Colgate; Colgate Wave Toothbrush; Oral B; Reach

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/40 (Item 40 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

1826230 Supplier Number: 01826230

Marketing News: Procter & Gamble

May 1997

COMPANY NAMES: PROCTER & GAMBLE CO

INDUSTRY NAMES: Personal care products

PRODUCT NAMES: Toothpaste, tooth powder and denture cleaners (284490); Brushes NEC (399193)

CONCEPT TERMS: Ad budget; All company; All market information; All product and service information; Marketing campaign; Product introduction

MARKETING TERMS: All media; All product marketing; Line extensions; Sales promotion; Ad volume

BRAND NAMES: Crest Multicare; Crest Multiclean

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/41 (Item 41 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2027963 Supplier Number: 02027963

BioDent PlusTron Ion Toothbrush System

December 23, 1997

COMPANY NAMES: SIL CO

INDUSTRY NAMES: Retailing non-food; Supermarkets

PRODUCT NAMES: Brushes NEC (399193); Limited price variety stores

(533000); Supermarket - retail (541035); Drug stores and proprietary stores (591000)
CONCEPT TERMS: All market information; Sales
BRAND NAMES: BioDent PlusTron Ion Toothbrush System
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/42 (Item 42 from file: 9)
DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
2083506 Supplier Number: 02083506
The Oral Care Market
February 1998
SPECIAL FEATURES: Table
COMPANY NAMES: CHESEBROUGH-POND'S INC (UNILEVER NV); COLGATE-PALMOLIVE CO
; ENAMELON INC; JOHNSON & JOHNSON; PROCTER & GAMBLE CO; WOODSTOCK NATURAL
PRODUCTS
INDUSTRY NAMES: Household appliances; Personal care products
PRODUCT NAMES: Toothpaste, tooth powder and denture cleaners (284490);
Small electric household appliances and parts NEC (363495); Brushes NEC
(399193)
CONCEPT TERMS: Ad budget; All company; All market information; All product
and service information; Market size; Product introduction; Sales; Trends
MARKETING TERMS: All media; Ad volume
BRAND NAMES: Colgate Total; Enamelon; Crest; Aquafresh; Mentadent; Arm &
Hammer; Rembrandt; Sensodyne; Listerine; Closeup; UltraBrite; The Natural
Dentist; Reach
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/43 (Item 43 from file: 9)
DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
2298725 Supplier Number: 02298725 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Consumers Change Brushes More Often, Trade Up
November 16, 1998
WORD COUNT: 733
SPECIAL FEATURES: Table
COMPANY NAMES: COLGATE-PALMOLIVE CO; ORAL-B LABORATORIES; WORLD TREND INC
INDUSTRY NAMES: Retailing non-food; Supermarkets
PRODUCT NAMES: Brushes NEC (399193); General merchandise stores NEC
(539000); Supermarket - retail (541035); Drug stores and proprietary
stores (591000)
CONCEPT TERMS: All market information; All product and service information
; Market share; Market size; Product introduction; Sales
BRAND NAMES: Oral B; Colgate; Reach; Crest; Mentadent; Aquafresh; Butler;
Dentax; Tek; Zoo
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/44 (Item 44 from file: 9)
DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
2313804 Supplier Number: 02313804 (USE FORMAT 7 OR 9 FOR FULLTEXT)
Oral-B takes toothbrushes to a higher level
November 23, 1998
WORD COUNT: 422
COMPANY NAMES: ORAL-B LABORATORIES
PRODUCT NAMES: Brushes NEC (399193)
CONCEPT TERMS: Ad budget; All company; All market information; All product
and service information; Marketing campaign; Product introduction
MARKETING TERMS: All campaign; All media; New campaign; Ad volume

Serial 10/419746

June 21, 2004

BRAND NAMES: CrossAction

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/45 (Item 45 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2336558 Supplier Number: 02336558

Toothbrushes make changes at both ends

December 14, 1998

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: All market information; All product and service information
; Market size; Product introductionGEOGRAPHIC NAMES: Japan (JPN); Pacific Rim (PARX); Southern & Eastern
Asia (SSAX)**17/8/46 (Item 46 from file: 9)**

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2346879 Supplier Number: 02346879

Oral-B-Cross Action Toothbrush

January 12, 1999

COMPANY NAMES: GILLETTE CO (THE); ORAL-B LABORATORIES

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: Ad budget; All company; All market information; All product
and service information; Capital expenditures; Market share; Market size;
Product introduction; Sales

BRAND NAMES: Oral-B Cross Action Toothbrush

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/47 (Item 47 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2401052 Supplier Number: 02401052

Toothbrush Sales Brush Up in Japan

February 1999

COMPANY NAMES: SUNSTAR CO LTD

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: All market information; All product and service information
; Market size; Product introduction; Sales; TrendsGEOGRAPHIC NAMES: Japan (JPN); Pacific Rim (PARX); Southern & Eastern
Asia (SSAX)**17/8/48 (Item 48 from file: 9)**

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2358261 Supplier Number: 02358261 (USE FORMAT 7 OR 9 FOR FULLTEXT)

Upscale products provide shot in the arm for oral care

February 01, 1999

WORD COUNT: 953

COMPANY NAMES: COLGATE-PALMOLIVE CO; JOHNSON & JOHNSON; ORAL-B
LABORATORIES; PROCTER & GAMBLE CO

PRODUCT NAMES: Brushes NEC (399193)

CONCEPT TERMS: All market information; All product and service information
; Marketing campaign; Market share; Market size; Product introductionMARKETING TERMS: All media; All product marketing; Coupons; Direct mail;
Line extensions; Point-of-purchase

GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/49 (Item 49 from file: 9)

DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.

2369587 Supplier Number: 02369587
Colgate Grip'Ems Toothbrush
February 09, 1999
COMPANY NAMES: COLGATE-PALMOLIVE CO
PRODUCT NAMES: Brushes NEC (399193)
CONCEPT TERMS: All market information; All product and service information
; Product introduction; Sales; Youth market
MARKETING TERMS: All product marketing; Positioning-repositioning
BRAND NAMES: Colgate Grip'Ems Toothbrush; Reach; Oral-B
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/50 (Item 50 from file: 9)
DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
3060722 Supplier Number: 03060722
Colgate Actibrush Bzzz
February 27, 2001
COMPANY NAMES: COLGATE-PALMOLIVE CO; PROCTER & GAMBLE CO
INDUSTRY NAMES: Household appliances
PRODUCT NAMES: Small electric household appliances and parts NEC (363495)
; Brushes NEC (399193)
CONCEPT TERMS: All market information; All product and service information
; Generation Y; Product introduction; Sales; Youth market
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/8/51 (Item 51 from file: 9)
DIALOG(R)File 9:(c) 2004 The Gale Group. All rts. reserv.
3158414 Supplier Number: 03158414
Jim Kirk On marketing, etc.: Butler's brush may spark new oral-care battle
June 12, 2001
COMPANY NAMES: ASE CONSUMER PRODUCTS CO; BUTLER (JOHN O) CO;
LAUGHLIN-CONSTABLE INC; ORAL-B LABORATORIES; RCN CORP; WONDERGROUP
INDUSTRY NAMES: Advertising Agencies; Broadcasting; Business services;
Entertainment; Food; Information industry
PRODUCT NAMES: Prepared meat products (201300); Brushes NEC (399193);
Cable television (CATV) systems operators (484020); Advertising agencies
(731100)
CONCEPT TERMS: Ad budget; All company; All market information; All product
and service information; Internet activity; Marketing campaign; Product
introduction; Sales
MARKETING TERMS: Account activity; All agency; All campaign; All media;
Cable TV advertising; Internet; National campaign; New campaign; Print
advertising; Campaign slogan; TV advertising; Ad volume
BRAND NAMES: Butler Gum; Lunch Makers
SLOGANS: Advantage you
GEOGRAPHIC NAMES: North America (NOAX); United States (USA)

17/7/25 (Item 25 from file: 570)
DIALOG(R)File 570:Gale Group MARS(R)
(c) 2004 The Gale Group. All rts. reserv.
01392523 Supplier Number: 44096140
Brushing Up For Top Spot
Marketing (Canada's Weekly Newspaper of Marketing Communications), v0, n0
, p3
Sept 13, 1993
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17/7/32 (Item 32 from file: 9)
DIALOG(R)File 9:Business & Industry(R)
(c) 2004 The Gale Group. All rts. reserv.
1180189 Supplier Number: 01180189 (THIS IS THE FULLTEXT)
Brush strokes
(During 1994, toothbrush sales rose by 12% to a value of UKPd101.9 mil;
manufacturers come out with new products)
Chemist & Druggist, n 5981, p 684
April 29, 1995
WORD COUNT: 785
TEXT:

With sales up 12 per cent last year, **toothbrushes** is the most dynamic sector in oral care. But while consumers may be prepared to pay more for a better **toothbrush**, they're still only replacing them once a year at most. Buying a new toothbrush used to be a simple task, with choice limited to bristle texture, size of brush head and whatever colour you fancied. These days it's become much more complicated, and the latest brushes bear little resemblance to those we've been used to. The brush heads are now angled and smaller, with end-rounded bristles arranged in intricate patterns so they reach every area of the tooth. Handles are flexible, easier to grip and more ergonomically designed. Of course, you can still opt for a more familiar flat-topped brush, but these are firmly positioned as bottom of the range and are basic.

'The market has become driven by innovation,' says Rebecca Phelps, commercial development manager for oral care at Colgate-Palmolive. 'Things that were seen as new a few years ago, such as nylon **bristles**, endrounded **filaments** and even our Diamond head **brush** are now just basic requirements.' While all this innovation has renewed interest in the sector and the wealth of advertising has persuaded consumers to try the brushes, the average replacement rate is still every 10-11 months, a far cry from the 3-4 months that dentists recommend.

However, when consumers do buy, they tend to trade up to the newer, more expensive brushes, says Ms Phelps. During 1994, sales rose by 12 per cent to a value of UKPd101.9 million (Nielsen), making it the most dynamic area in oral hygiene. At Oral-B they estimate the new premium end brushes now account for a 22.5 per cent share of sales in the adult market, with an average price of UKPd2.14 a brush, itself an increase of 23 per cent on last year's figure.

Increasingly, toothbrushes are being bought as part of the weekly shop in the supermarket. Grocers now account for 54 per cent of sales, with pharmacies at 9 per cent and Boots taking 20 per cent (A C Nielsen/Oral B). Traditional toothpaste makers, such as Colgate, Smithkline Beecham and Elida Gibbs, have moved successfully into brushes. Colgate, which claims a 16 per cent share for its Precision brush, is encouraging consumers to buy brushes as well as toothpastes by cross-referencing on packs.

But do the new brushes really clean teeth any better, or are they just an expensive marketing gimmick? Phil Benham, managing director of Benham UK (formerly Butler), is not entirely convinced: 'I think consumers are confused by all the toothbrush developments, when what's really important is to brush your teeth properly and change the brush frequently. The new brushes all mean higher prices for the consumer to fund the advertising campaigns.'

At Wisdom, marketing director Janice Collins admits the biggest problem is trying to get people to change their brush more often. Many people replace their brush only once a year, usually before they go on holiday.

BRUSH NEWS

Colgate-Palmolive has changed the Precision brush name to Total and added a standard head with a medium **bristles** variant to the range, as well as a new brush, Colgate Duo Action (UKPd1.79), which features stepped **bristles**. The Diamond Head range has been repositioned, putting it into the standard brush category, with the price now reduced to UKPd1.49. Wisdom is launching the Contour into the premium sector, featuring a wide, contoured handle for better control; a long, slender neck for reaching all areas of the mouth; a rounded head; and graduated end- rounded **filaments**.

Stafford-Miller is making it easier for consumers to remember to replace brushes with new Sensodyne Switch (UKPd2.79), which has a replaceable brush head. A new brush head comes with each pack. Features include a rubberised handle for slip-free grip and an oval-shaped head to reach awkward areas. Benham UK, distributor of Butler dental products, is offering the GUM toothbrush at UKPd0.99 through Unichem pharmacies.

Procter & Gamble launched the Crest Complete toothbrush to complement its all-in-one paste of the same name. With a rippled **brush** head, it claims 35 per cent better plaque removal than an ordinary flat brush head.

Johnson & Johnson has launched the Reach Control, which features an angled neck and tapered head for easier access to back teeth. Two levels of end-rounded **bristles** provide gum protection as well as effective cleaning. The Reach range has been relaunched in clear packaging with new graphics to help differentiate between variants.

Elida Gibbs has added the Mentadent P Diagonal (UKPd1.79), which it claims is the first to feature two different angled bristles on the same brush head. The brush has a three-angled handle and a non-slip grip.

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Serial 10/419746

June 21, 2004

File 8: Ei Compendex(R) 1970-2004/Jun W2
 File 119: Textile Technol. Dig. 1978-2003/Jun
 File 248: PIRA 1975-2004/Jun W1
 File 323: RAPRA Rubber & Plastics 1972-2004/Jun
 File 65: Inside Conferences 1993-2004/Jun W2
 File 67: World Textiles 1968-2004/Jun
 File 94: JICST-EPlus 1985-2004/May W5
 File 95: TEME-Technology & Management 1989-2004/Jun W1
 File 99: Wilson Appl. Sci & Tech Abs 1983-2004/May
 File 144: Pascal 1973-2004/Jun W2
 File 34: SciSearch(R) Cited Ref Sci 1990-2004/Jun W2
 File 434: SciSearch(R) Cited Ref Sci 1974-1989/Dec
 File 583: Gale Group Globalbase(TM) 1986-2002/Dec 13

Set	Items	Description
S1	51130	BRUSH OR BRUSHES OR MASCARABRUSH? OR MASCARA()BRUSH? ? OR - HAIRBRUSH? OR TOOTHBRUSH? OR BOTTLEBRUSH? OR NAILBRUSH? OR PA- INTBRUSH?
S2	372031	TWIST? OR WOUND OR WRAP? OR TWINE? OR TWINING OR SPIRAL? OR WINDING
S3	1512667	FIBER? ? OR FIBRE? ? OR FIBROUS OR FILAMENT? ? OR BRISTLE? ?
S4	3089248	CORE OR CORES OR CENTER? ? OR CENTRE? ? OR CENTRAL OR MIDDLE
S5	528343	DIAMETER? ? OR DIAMETRE? ?
S6	232167	MIL OR MILS
S7	82	S1 AND S2 AND S3
S8	0	S6 AND S7
S9	18	S1 AND S3 AND S6
S10	18	RD (unique items)
S11	18	Sort S10/ALL/PY,A
S12	56	S1(S)S2(S)S3
S13	49	RD (unique items)
S14	49	S13 NOT S11
S15	49	Sort S14/ALL/PY,A

11/6/4 (Item 4 from file: 583)

02552080

DU PONT PLANS TYNEX PLANT

UK - DU PONT PLANS TYNEX PLANT

16 March 1989

11/6/10 (Item 10 from file: 583)

04510201

Procter & Gamble is currently/

US - PROCTER & GAMBLE PREPARES TO LAUNCH NEW TOOTHBRUSH

10 September 1991

11/6/11 (Item 11 from file: 583)

04374264

ORAL-B LAUNCHES INDICATOR TOOTHBRUSH

UK - ORAL-B LAUNCHES INDICATOR TOOTHBRUSH

6 July 1991

11/6/12 (Item 12 from file: 583)

05416482

Aquafresh Flex is now for kids

UK - SMITHKLINE BEECHAM EXTENDS AQUAFRESH FLEX RANGE

31 October 1992

11/6/13 (Item 13 from file: 583)
05218391
Wisdom's GBP1m support for Reflex
UK - WISDOM LAUNCHES REFLEX TOOTHBRUSH
25 July 1992

11/6/14 (Item 14 from file: 583)
05176583
MARKETPLACE: REFLEX ACTION
UK - ADDIS LAUNCHES 'REFLEX' UNDER 'WISDOM' BRAND
0 June 1992

11/6/15 (Item 15 from file: 583)
05120259
Trampoline' toothbrush bounces into play
UK - WISDOM LAUNCHES REFLEX TOOTHBRUSH
23 May 1992

11/6/16 (Item 16 from file: 583)
05100491
Wisdom's Reflex for better brushing
UK - WISDOM LAUNCH NEW TOOTHBRUSH
23 May 1992

11/6/17 (Item 17 from file: 583)
04862387
SB get into brushes with Aquafresh Flex
UK - SMITHKLINE BEECHAM LAUNCHES NEW TOOTHBRUSH
1 February 1992

11/7/18 (Item 18 from file: 94)
DIALOG(R)File 94:JICST-EPlus
(c)2004 Japan Science and Tech Corp(JST). All rts. reserv.
02989838 JICST ACCESSION NUMBER: 96A0805587 FILE SEGMENT: JICST-E
In Vitro Plaque Cleaning Effect by Electric Toothbrush . Comparison of the
Bristles in the Different Tufts Arrangement.
HOTTA MASATO (1); IMADE SHOICHI (1); TAGUCHI NAOYUKI (1); MINAMI SHINSUKE
(1); AONO MASAO (2)
(1) Asahi Univ., Sch. of Dent.; (2) Jpn. Inst. of Adv. Dent.
Nippon Shika Hozongaku Zasshi(Japanese Journal of Conservative Dentistry),
1996, VOL.39,NO.4, PAGE.940-944, FIG.5, REF.15
JOURNAL NUMBER: Y0096AAL ISSN NO: 0387-2343
UNIVERSAL DECIMAL CLASSIFICATION: 616.314:613/614
LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan
DOCUMENT TYPE: Journal
ARTICLE TYPE: Original paper
MEDIA TYPE: Printed Publication
ABSTRACT: The present study was carried out to evaluate the cleaning
effectiveness of different types of electric toothbrush bristles to
remove artificial plaque from dentoform models of facial and
interproximal tooth surfaces(upper central incisor). The used electric
toothbrush operates at 2,500 strokes per minute and has a stroke
length of 2.5mm. The brush head has arranged end-rounded bristle
tufts, comprising of soft and hard bristles (7 mil and 9 mil dia.,
A group) and only medium bristles (8 mil dia., B group). For

toothbrush operation, **toothbrushes** were positioned 45 degrees to the dentition and three forces (100g, 200g, and 300g) were applied to the **brush** head. The facial and interproximal area of artificial plaque removal were measured by a digital image analyzer after 5-minute brushing. For each subject, 10 brushed teeth were measured and the means were determined. Data were examined for significance by the Student t-test. It was possible to demonstrate a statistically significant difference in plaque removal of interproximal area between A and B groups ($A > B, p < 0.01$). As for the **toothbrushing** force, that of 200g has significantly better cleaning ability than that of 300g ($p < 0.05$). These results suggested that the soft and hard **bristles** with 200g is effective for removing plaque on the interproximal surface. (author abst.)

15/6/4 (Item 4 from file: 119)
0412330 11905/81
YARN-TUBE CLEANING.

15/6/30 (Item 30 from file: 583)
09066788
Dentrificos y cepillos dentales
SPAIN: NEW COLGATE PRODUCTS LAUNCHED
Jan 1999

15/6/35 (Item 35 from file: 323)
00787286
TITLE: PROCESS FOR PRODUCING BRISTLE MATERIAL FOR BRISTLE GOODS
PATENT DATE: 20000411

15/7/5 (Item 5 from file: 119)
DIALOG(R) File 119:Textile Technol.Dig.
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0427622 07485/82

METHOD FOR PREPARING CONDUCTIVE FIBER BRUSHES.

Swift J. A.; Ray C. M.; Ewing J. R.

Patent Country: US

Patent No.: US 4330349 (US 4 330 349.)

Assignees: Xerox

Patent Date: 19820518 (May 18, 1982)

Original Patent Appl. No.: 193 241. Original Patent Appl. Country: USA

Priority Date: Appl. Oct. 2, 1980

Publication Year: 1982

Language: English

A rotatable cylindrical mandrel having at least one longitudinal recess on its surface is provided. A first strip of a backing material is positioned in the recess. Electrically conductive **fibers** are wound from a supply source around the mandrel and are fastened to each other by adhesive means on the **windings** at the recess. The conductive **fiber** windings are cut in the longitudinal direction of the mandrel to obtain conductive **brushes** of appropriate **fiber** length.

15/7/7 (Item 7 from file: 119)
DIALOG(R) File 119:Textile Technol.Dig.
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0454285 04925/83

WIDE-SWEEP CARPET CLEANER BRISTLE STRIP AND BRUSH ROLL.

Vermillion D. W.
Patent Country: US
Patent No.: US 4372004 (US 4 372 004)
Assignees: Singer
Patent Date: 19830208 (Feb. 8, 1983,)
Original Patent Appl. No.: 250 795. Original Patent Appl. Country: USA
Priority Date: Appl. Apr. 3, 1982
Publication Year: 1983
Language: English

A **brush** or agitator roll in a suction cleaner for carpets provided with at least a pair of diametrically opposed longitudinally extending **spiral** grooves and a **bristle** /agitator strip **spirally** and slidably engaged in each groove is described. The improvement consists of each strip having a band forming part of a crowned pulley for a drive belt provided on either side with a series of holes for receiving **bristle** tufts.

15/7/40 (Item 40 from file: 144)
DIALOG(R) File 144:Pascal
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15900104 PASCAL No.: 03-0038905

A stiff bristled , spiral -shaped ectocervical brush : A device for transepithelial tissue biopsy

MONK Bradley J; COGAN Michael; FELIX Juan C; LONKY Neal M; BENTZ Joel S; MARSHALL C Jay; CESTERO Ramon M; ROWE Leslie R; LONKY Stewart A

Departments of Gynecologic Oncology, and Obstetrics and Gynecology, University of California at Irvine, Irvine, California, United States; Clinical Pathology and Obstetrics and Gynecology, Keck School of Medicine, University of Southern California, Los Angeles, California, United States; Department of Obstetrics and Gynecology, Southern California Permanente Medical Group, Anaheim, California, United States; Department of Pathology, University of Utah School of Medicine, Salt Lake City, Utah, United States; Department of Women's Health, Arrowhead Regional Medical Center, Colton, California, United States; Institute for Clinical and Experimental Pathology, Associated Regional and University Pathologists Inc., Salt Lake City, Utah, United States; Department of Medicine, University of California at Los Angeles, Los Angeles, California, United States; The Trylon Corporation, Torrance, California, United States

Journal: Obstetrics and gynecology : (New York. 1953), 2002, 100 (6)
1276-1284

ISSN: 0029-7844 CODEN: OBGNAS Availability: INIST-7207;
354000105498150200

No. of Refs.: 30 ref.

Document Type: P (Serial) ; A (Analytic)

Country of Publication: United States

Language: English

OBJECTIVE: To compare a new **spiral**-shaped tissue-sampling **brush** with a standard cervical punch biopsy. METHODS: Before large loop excision of the transformation zone, women with cervical intraepithelial neoplasia underwent a transepithelial brush biopsy of a portion of a colposcopically identified lesion, followed by a punch biopsy of the remaining portion. Brush biopsy samples were processed using liquid-based cytology and cell block techniques. Diagnoses were made using a consensus of three pathologists. Brush biopsy samples without basal cells were considered inadequate. The histological diagnosis was compared with the brush biopsy and punch biopsy samples. Patient-reported pain and physician-reported bleeding for punch and brush biopsies were compared. RESULTS: Fifty-two

women were enrolled in the study; 47 successfully completed the study protocol. Eight brush biopsy specimens were inadequate. Thirty-nine women showed abnormal pathology (human papillomavirus/cervical intraepithelial neoplasia I or worse) on large loop excision of the transformation zone, and 32 women had high-grade (or worse) lesions. The punch biopsy correlated with high-grade disease in 53.1% of these women. The brush biopsy result correlated with high-grade disease in 79.3% of these women using a cell block technique and 76.7% using liquid cytology. There was significantly less pain ($P < .001$) and significantly less bleeding ($P < .001$) with the brush biopsy. CONCLUSION: When an adequate sample is collected, spiral brush biopsy is as good as a standard punch biopsy for detecting cervical pathology, with substantially less pain and bleeding. User training and guidelines for sampling are needed to assure that an adequate sample is collected.

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Serial 10/419746

June 21, 2004

File 350:Derwent WPIX 1963-2004/UD,UM &UP=200438

File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)

File 371:French Patents 1961-2002/BOPI 200209

Set Items Description

S1 103042 BRUSH OR BRUSHES OR MASCARABRUSH? OR MASCARA()BRUSH? ? OR -
HAIRBRUSH? OR TOOTHBRUSH? OR BOTTLEBRUSH? OR NAILBRUSH? OR PA-
INTBRUSH?

S2 718784 TWIST? OR WOUND OR WRAP? OR TWINE? OR TWINING OR SPIRAL? OR
WINDING

S3 999237 FIBER? ? OR FIBRE? ? OR FIBROUS OR FILAMENT? ? OR BRISTLE? ?

S4 1806661 CORE OR CORES OR CENTER? ? OR CENTRE? ? OR CENTRAL OR MIDDLE

S5 608573 DIAMETER? ? OR DIAMETRE? ?

S6 7812 MIL OR MILS

S7 46571 IC=(A45D OR A46B)

S8 1320 S1 AND S2 AND S3

S9 530990 CROSS()SECTION?

S10 1418 S9(1N)S5

S11 8 S8 AND (S6 OR S10)

S12 5 S7 AND S2 AND S3 AND (S6 OR S10)

S13 0 S12 NOT S11

S14 1 S3 AND S6 AND S10

S15 1 S14 NOT S11

11/34/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014806500 **Image available**

WPI Acc No: 2002-627206/200267

**Brush for applying mascara to eyelashes, comprises bristles of
polyamide fibers in spiral arrangement, where fiber surface has
several indents spaced apart to enhance pick-up of mascara**

Patent Assignee: NEWELL R L (NEW-E-I)

Inventor: NEWELL R L

Number of Countries: 097 Number of Patents: 003

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200241726	A2	20020530	WO 2001US43414	A	20011114	200267 B
AU 200216680	A	20020603	AU 200216680	A	20011114	200267
EP 1335655	A2	20030820	EP 2001997237	A	20011114	200362
			WO 2001US43414	A	20011114	

Priority Applications (No Type Date): US 2001283475 P 20010412; US

2000252559 P 20001122

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200241726 A2 E 10 A45D-000/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA
CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN
IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GR IE IT
IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW

AU 200216680 A A45D-000/00 Based on patent WO 200241726

EP 1335655 A2 E A45D-040/26 Based on patent WO 200241726

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI TR

Abstract (Basic): WO 200241726 A2

NOVELTY - The **brush** (10) comprises **bristles** (14) placed in a **spiral** arrangement (16) with several turns around a support (12). The **bristles** comprise polyamide **fibers** having an external surface modified to include a texturized surface configuration having several indents spaced apart, for providing enhanced pick-up and subsequent release of mascara to be applied to the eyelashes.

DETAILED DESCRIPTION - The **brush** comprises **bristles** placed in a **spiral** arrangement with several turns around a support. The **bristles** comprise polyamide **fibers** having an external surface modified to include a texturized surface configuration having several indents spaced apart from one another along and around the texturized surface configuration for providing enhanced pick-up and subsequent release of mascara to be applied to the eyelashes. The **bristles** have a diameter of about 2.5-3.5 **mils** and the **brush** has more than 60-120 **bristles** within each turn of the **spiral** arrangement. An **INDEPENDENT CLAIM** is included for method for applying mascara to eyelashes with the **brush**.

USE - For applying mascara to eyelashes.

ADVANTAGE - The mascara is smoothly and uniformly applied on eyelashes. Enhanced release of mascara is enabled, while excessive build-up of mascara is reduced. Aesthetic finish of eyelashes is enabled. The **brush** has high quality and long life, and enables excellent performance.

DESCRIPTION OF DRAWING(S) - The figure shows the side elevational view of an applicator **brush**.

Brush (10)

Support (12)

Bristles (14)

Spiral arrangement (16)

pp; 10 DwgNo 1/3

Technology Focus:

TECHNOLOGY FOCUS - **POLYMERS** - Preferred Components: The polyamide **fiber** is nylon 6.12 or NATRAFIL TYN 1437.

Derwent Class: A96; P24

International Patent Class (Main): A45D-000/00; A45D-040/26

International Patent Class (Additional): A46B-003/16; D02G-003/00

11/34/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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014698394 **Image available**

WPI Acc No: 2002-519098/200255

Toothbrush for cleaning teeth, comprises bristles that are prepared using composition comprising mixture of thermoplastic polymeric resin and slip agent

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO); BREZLER R A (BREZ-I); LOUDIN S E (LOUD-I); NELSON C F (NELS-I); SU K B (SUKB-I)

Inventor: BREZLER R A; HOMAN S E; NELSON C F; SU K B; LOUDIN S E

Number of Countries: 025 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200228222	A1	20020411	WO 2001US30688	A	20010928	200255 B
US 20020120995	A1	20020905	US 2000237302	P	20001002	200260
			US 2001962493	A	20010925	
EP 1322199	A1	20030702	EP 2001977323	A	20010928	200344
			WO 2001US30688	A	20010928	
KR 2003040512	A	20030522	KR 2003704630	A	20030401	200360

CN 1468072 A 20040114 CN 2001816728 A 20010928 200423
JP 2004515268 W 20040527 WO 2001US30688 A 20010928 200435
JP 2002531857 A 20010928

Priority Applications (No Type Date): US 2001926493 A 20010925; US
2000237302 P 20001002; US 2001962493 A 20010925

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200228222 A1 E 31 A46D-001/00

Designated States (National): CA CN JP KR

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE TR

US 20020120995 A1 A46B-003/18 Provisional application US 2000237302

EP 1322199 A1 E A46D-001/00 Based on patent WO 200228222

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE TR

KR 2003040512 A A46D-001/00

CN 1468072 A A46D-001/00

JP 2004515268 W 46 A46D-001/00 Based on patent WO 200228222

Abstract (Basic): WO 200228222 A1

NOVELTY - A **brush** (2) for cleaning teeth, comprises **bristles**
(4) prepared from a composition comprising a thermoplastic polymeric
resin mixed with a slip agent.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for
cleaning teeth, which involves brushing one or more teeth with the
toothbrush.

USE - For cleaning teeth.

ADVANTAGE - The **toothbrush** with polymeric **bristles** improves
cleaning efficiency of teeth, especially between the teeth, and reduces
coefficient of friction exerted by the **bristles**. The straight,
curved, looped or arched filamentous **bristles** may be tapered,
feathered, tipped or flagged reliably.

DESCRIPTION OF DRAWING(S) - The figure shows the side elevation of
toothbrush.

Toothbrush (2)

Bristle (4)

pp; 31 DwgNo 1/9

Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Resin: The thermoplastic
polymeric resin comprises polyamide, polyester, polyolefin,
fluoropolymers, polyurethane, polyvinyl chloride, polyvinylidene
chloride and/or styrenic polymers or their copolymers, preferably
polyamide such as nylon 6,12. Preferred Slip Agent: The slip agent
comprises fluorinated olefin polymer, boron nitride, molybdenum
disulfide, graphites, fullerene and/or talc, preferably
polytetrafluoroethylene. Preferred Composition: The **bristle**
composition comprises 0.5 weight% (wt.%) or more, preferably 10 wt.% or
less of slip agent, based on total weight of the composition containing
polymer and slip agent. The **bristles** clasped by a **twisted** wire,
either extend out from a planar surface or radially extend out from a
central axis in multiple directions toward a circumferential perimeter
about the central axis.

Extension Abstract:

EXAMPLE - 30 weight % (wt.%) of nylon 6,12 was blended with a slip
agent containing 2 weight% of MP 1400 micropowder (Teflon) having
average particle size of 7-12 microns. The blended composition was
melted, extruded, metered by a melt pump and forced through a spin pack

and spinneret plate to form round strands. The strands were quenched in water, heated above glass transition point of nylon and stretched 3-5 times its initial length, to obtain an oriented **filament**. The **filament** was then heat set in air at 150-180degreesC in order to impart the type of bend recovery required for **toothbrush filament**. The **filament** (8 mil size) was subsequently coated with a surface lubricant and its coefficient of friction was determined. The results showed that the coefficient of friction at speed of 0.0016, 0.3200 and 32.00 cm/second were 0.25, 0.24 and 0.26, respectively. The results concluded that the **filament** had low coefficient of friction because of the presence of slip agent in the **filaments**.

Derwent Class: A96; P24; P32

International Patent Class (Main): A46B-003/18; A46D-001/00

International Patent Class (Additional): A46B-009/04; A61C-017/00;
C08L-077/00

11/34/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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013999346 **Image available**

WPI Acc No: 2001-483561/200152

Macro filament mascara brush, has radial bristles secured between a pair of twisted wire segments, at 4 - 27 bristles per turn, and having a durometer of 62D - 82D

Patent Assignee: COLOR ACCESS INC (COLO-N)

Inventor: MIRAGLIA L A

Number of Countries: 030 Number of Patents: 006

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 200158309	A1	20010816	WO 2001US4555	A	20010209	200152 B
AU 200138184	A	20010820	AU 200138184	A	20010209	200175
US 6481445	B1	20021119	US 2000501038	A	20000209	200280
EP 1257183	A1	20021120	EP 2001910593	A	20010209	200301
			WO 2001US4555	A	20010209	
JP 2003521982	W	20030722	JP 2001557430	A	20010209	200350
			WO 2001US4555	A	20010209	
AU 764837	B	20030904	AU 200138184	A	20010209	200368

Priority Applications (No Type Date): US 2000501038 A 20000209

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200158309 A1 E 16 A46B-009/02

Designated States (National): AU CA JP

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE TR

AU 200138184 A A46B-009/02 Based on patent WO 200158309

US 6481445 B1 A45D-040/26

EP 1257183 A1 E A46B-009/02 Based on patent WO 200158309

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003521982 W 17 A45D-034/04 Based on patent WO 200158309

AU 764837 B A46B-009/02 Previous Publ. patent AU 200138184

Based on patent WO 200158309

Abstract (Basic): WO 200158309 A1

NOVELTY - The **brush** has **bristles** (17) that are wider and stiffer than usual. The **brush** has a **central core** (12) formed from a pair of **twisted wire** segments. Radially extending **bristles** are

secured between the pair of **twisted** wir segments to form a **brush** portion at an end of the core. The **bristles** are secured in a quantity of 4 to 27 **bristles** per turn of the **twisted** wire segments. Each of the **bristles** has a diameter of 8 to 18 **mil** and is made from a thermoplastic elastome material having a durometer of between 62D and 82D.

DETAILED DESCRIPTION - Preferably, the **bristles** have a diameter of 10 to 13 **mil** , are made fron an elastomeric polyester material having a durometer of about 72D and are secured in a quantity of from 7-14 **bristles** per turn. The surface of at least some of the **bristles** is provided with one of a groove, ridge, or clearance. At least one of the **bristles** is mechanically abraded, and at least one is hollow.

USE - For application of mascara to the eye lashes.

ADVANTAGE - The material from which the **bristles** are made is softer than the material from which conventional **bristles** are made to ensure that the **bristles** will supple enough to facilitate application and avoid irritation to the user.

DESCRIPTION OF DRAWING(S) - The figure shows a side, partial cross section view of the **mascara brush** .

shaft (11)

core (12)

bristles (17)

handle (30)

pp; 16 DwgNo 2/6

Derwent Class: P24

International Patent Class (Main): A45D-034/04; A45D-040/26; A46B-009/02

International Patent Class (Additional): A45D-040/24; A45D-044/18

11/34/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012933807 **Image available**

WPI Acc No: 2000-105654/200009

Bristles assembly for e.g. wire brush , tooth brush , comprises several mono- filaments made of thermoplastic polymer, connected to a string base in brush

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO); BUCKER R (BUCK-I); CHAMBERS J A (CHAM-I); EDWARDS M S (EDWA-I); LOUDIN S E (LOUD-I);

MARSHALL W H (MARS-I); WATTS J H (WATT-I)

Inventor: BUCKER R; CHAMBERS J A; EDWARDS M S; LOUDIN S E; MARSHALL W H;

WATTS J H

Number of Countries: 029 Number of Patents: 008

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9962371	A1	19991209	WO 99US11791	A	19990604	200009 B
EP 1082034	A1	20010314	EP 99925950	A	19990604	200116
			WO 99US11791	A	19990604	
US 6269514	B1	20010807	US 9892094	A	19980605	200147
CN 1311640	A	20010905	CN 99809343	A	19990604	200201
MX 2000012038	A1	20010501	MX 200012038	A	20001205	200227
JP 2002516683	W	20020611	WO 99US11791	A	19990604	200253
			JP 2000551641	A	19990604	
US 6434778	B1	20020820	US 9892094	A	19980605	200257
			US 2000723698	A	20001128	
BR 9911190	A	20030225	BR 9911190	A	19990604	200320
			WO 99US11791	A	19990604	

Priority Applications (No Type Date): US 9892094 A 19980605; US 2000723698
A 20001128

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9962371 A1 E 36 A46B-009/04

Designated States (National): BR CA CN ID IN JP KP MX RU

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU
MC NL PT SE

EP 1082034 A1 E

Based on patent WO 9962371

Designated States (Regional): BE CH DE ES FR GB IT LI NL SE

US 6269514 B1 A46B-009/04

CN 1311640 A A46B-009/04

MX 2000012038 A1 A46B-009/04

JP 2002516683 W 48 A46B-003/16 Based on patent WO 9962371

US 6434778 B1 A46B-009/04 Div ex application US 9892094

BR 9911190 A A46B-009/04 Based on patent WO 9962371

Abstract (Basic): WO 9962371 A1

NOVELTY - Several mono- **filaments** (74) are connected to a string base (64) in a **brush**. The mono- **filaments** are made of thermoplastic polymer selected from aliphatic polyamides, aromatic polyamides, polyesters, polyolefins, styrenes, polyvinyl chloride, fluoropolymers, polyurethane, polyvinylidene chloride, polystyrene and styrene copolymers and nylon.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) a method for **brush** manufacturing involving connecting mono- **filament bristles** to string base and detachedly fitting the string base to the groove provided in **brush** head, where each string base of each **bristle** assembly is sealed in the corresponding groove; and

(2) the wire **brush** in which string bases of two mono- **filament** assemblies are **twisted** together to entangle the mono- **filament** loops of the assemblies.

USE - In wire **brush**, tooth **brush**.

ADVANTAGE - Simplifies **bristle** assembly due to the connection of mono- **filaments** to the string base in the **brush**. Improves degree of freedom of **brush** design, since individual **filaments** are fixed beforehand in positions relative to each other before connection of string base with **brush** head. The **bristles** are assembled fixedly or detachedly to the **brush** head as desired. Since the **bristles** can be connected detachedly, the **bristles** are replaced easily and wastage of **brush** head is avoided.

DESCRIPTION OF DRAWING(S) - The figure shows the **bristle** assembly in wire **brush**.

String base; (64)

Mono- **filament** (74)

pp; 36 DwgNo 16/40

Technology Focus:

TECHNOLOGY FOCUS - POLYMERS - Preferred Polymers: The nylon type comprising mono- **filaments** include 4-nylon, 6-nylon, 11-nylon, 12-nylon, 6,6- nylon, 6,10-nylon, 6,14-nylon, 10,10-nylon, 12,12-nylon or other copolymers. Either string base or mono- **filaments** is made of polybutylene terephthalate (PBT).

Preferred Features: More than one continuous cavity and discontinuous voids are provided in the string base. The mono- **filament** has diameter of 2-200 **mils** preferably 2-20 **mils**. The string base and the mono- **filaments** have circular or non- circular cross-section.

The mono- **filaments** include an additive selected from colorants, color particles, therapeutic agents, anti-microbial agents and their mixtures. 0-50 wt% of abrasive particle is included in the mono- **filaments**. The abrasive is selected from oxides, carbides, silicates, nitrides, borides, boronitrides and metals. The string base and mono- **filaments** are co-extruded with one or more polymer and are surface treated. Alternatively, the mono- **filaments** are bonded to string base by heat fusion, adhesive or solvents. The mono- **filaments** are non-linear and are arranged to form two rows with minimum angular variances. The mono- **filaments** differ in shapes, lengths and colors. The mono- **filaments** are connected in the form of a loop, to the string base. The string base is embedded in a **brush** head. The mono- **filaments** comprise a **bristles** bent to form parallel and are connected to string base. The **brush** head has several grooves into which cartridge of each **bristle** assembly is detachably fitted. At least two **bristle** assemblies are disposed in a common row.

Derwent Class: A96; B07; D21; F07; P24

International Patent Class (Main): A46B-003/16; A46B-009/04

International Patent Class (Additional): A46B-009/02

11/34/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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012900941 **Image available**

WPI Acc No: 2000-072777/200006

Method for making an elongated article, especially a bristle sub-assembly

Patent Assignee: DU PONT DE NEMOURS & CO E I (DUPO); CHAMBERS J A (CHAM-I); EDWARDS M S (EDWA-I)

Inventor: CHAMBERS J A; EDWARDS M S

Number of Countries: 029 Number of Patents: 009

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9962711	A1	19991209	WO 99US11790	A	19990604	200006 B
US 6096151	A	20000801	US 9892092	A	19980605	200039
EP 1109670	A1	20010627	EP 99928348	A	19990604	200137
			WO 99US11790	A	19990604	
CN 1311736	A	20010905	CN 99809344	A	19990604	200201
BR 9911191	A	20020305	BR 9911191	A	19990604	200225
			WO 99US11790	A	19990604	
MX 2000012037	A1	20010601	MX 200012037	A	20001205	200235
JP 2002516736	W	20020611	WO 99US11790	A	19990604	200253
			JP 2000551951	A	19990604	
US 20030115708	A1	20030626	US 9892092	A	19980605	200343
			US 2000631392	A	20000803	
			US 2003365957	A	20030213	
US 20030116258	A1	20030626	US 9892092	A	19980605	200343
			US 2000631392	A	20000803	
			US 2003366012	A	20030213	

Priority Applications (No Type Date): US 9892092 A 19980605; US 2000631392 A 20000803; US 2003365957 A 20030213; US 2003366012 A 20030213

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9962711 A1 E 59 B32B-031/20

Designated States (National): BR CA CN ID IN JP KP MX RU

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LU

MC NL PT SE

US 6096151 A A46B-009/04
EP 1109670 A1 E B32B-031/20 Based on patent WO 9962711
Designated States (Regional): BE CH DE ES FR GB IT LI NL SE
CN 1311736 A B32B-031/20
BR 9911191 A B23B-031/20 Based on patent WO 9962711
MX 2000012037 A1 B32B-031/20
JP 2002516736 W 52 A46D-003/04 Based on patent WO 9962711
US 20030115708 A1 A46B-001/00 Div ex application US 9892092
Div ex application US 2000631392
Div ex patent US 6096151
US 20030116258 A1 B32B-031/20 Div ex application US 9892092
Div ex application US 2000631392
Div ex patent US 6096151

Abstract (Basic): WO 9962711 A1

NOVELTY - Elongated article is made by feeding base string(s) along an axis. At least a monofilament is **wrapped** around the axis to obtain monofilament **wraps** /length of base string which are transported by and bonded to the base string, and cut at a point downstream of where they are bonded to the base string to form an article with two rows of monofilament segments attached to the base string.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for (A) an article made according the invented method; and (B) an apparatus for making an elongated article comprising means for feeding at least one base string along an axis; means for **wrapping** at least one monofilament around the axis, means for bonding the **wraps** to the base string, and means for cutting the **wraps** to form an article having two rows of monofilament segments connected to the base string.

USE - The invention is used for making an elongated article, especially a **bristle** sub-assembly (claimed), eg. a **toothbrush** or pile articles.

ADVANTAGE - The invented method provides **bristle** articles and **bristle** sub-assemblies at high productivity and low cost production. The **bristle** assemblies are capable of expanding **brush** design beyond the range possible with current tufting techniques, and can be permanently connected to the **brush** body or, alternatively, detachably connected for subsequent replacement, thus avoiding wastefully discarding functional **brush** bodies.

DESCRIPTION OF DRAWING(S) - The figure is a side view of an apparatus for making looped monofilament **bristle** sub-assemblies.

Yarn (20)

Source (22)

pp; 59 DwgNo 15/40

Technology Focus:

TECHNOLOGY FOCUS - MECHANICAL ENGINEERING - Preferred Method: The step of bonding the **wraps** includes moving the **wraps** under an ultrasonic horn and applying ultrasonic energy to the horn at a level sufficient to at least partially melt the monofilament. At least one base string is fed through a mandrel in a first direction from one end to the other, and along an exterior of the mandrel of a polyhedron shape in a second opposite direction. The monofilament is **wrapped** and rotated around the axis to form several **wraps** that are in contact with the base string. The mandrel has four sides and four corners, and the feeding step includes feeding four base strings through the mandrel and exteriorly along the respective corners. The method further comprises surface treating the monofilament. The bonding step comprises

heat fusing, adhesively bonding, or solvent bonding the monofilament **wraps** to the base string; and passing the **wraps** under an ultrasonic heat source which includes a horn having at least a partially flat face. The method preferably comprises feeding a base string along a first support; **wrapping** at least one monofilament around a second support to form loops; feeding the loops transversely over the at least one base string; pressing the loops into contact with the base string; and bonding the **wraps** to the base string to form an article having two rows of monofilament loops connected to the base string. The second support which is preferably an anvil includes a pair of support arms, each having a stationary proximal end and a distal end. The anvil has a sloped forward portion, and the feeding step includes feeding the base string along the anvil in a direction away from the support arms. The steps of pressing the loops into contact with the base string and bonding the **wraps** comprises moving the base string and loops under an ultrasonic horn and applying ultrasonic energy to the ultrasonic horn at a level sufficient to cause at least one loop and the base string to at least partially melt. The horn is provided with a face having a flat portion. The method may also include feeding at least one locking string into contact with the at least one base string prior to pressing.

POLYMERS - Preferred Material: At least one of the base string and the monofilament is made of a thermoplastic polymeric material or nylon material. It may be aliphatic polyamides, aromatic polyamides, polyesters, polyolefins, styrenes, polyvinylchloride (PVC), fluoropolymers, polyurethane, polyvinylidene chloride, polystyrene, styrene copolymers, or coextrusions of at least one polymer. The nylon material is preferably 4 nylon, 6 nylon, 11 nylon, 12 nylon, 6,6 nylon, 6,10 nylon, 6,14 nylon, 10,10 nylon, 12,12 nylon, or other nylon copolymers. The base string and/or monofilament is made of polybutylene terephthalate (PBT), may have a (non)-circular cross-sectional shape, at least one continuous cavity, or non-continuous voids. The base string is a monofilament made of thermoplastic material having a diameter of 2-200 **mils**. It may be a bundle of monofilaments, at least one of which is made of a thermoplastic, polymeric material. The monofilament includes 0-50 wt.% additive.

INORGANIC CHEMISTRY - Preferred Additive: The additive includes abrasives, colorants, color particles, therapeutic agents, antimicrobial agents, or their combinations. The abrasive which is selected for their abrasive properties may be oxides, carbides, silicates, nitrides, boro-nitrides, borides, or metals.

Preferred Material: At least one of the base string, locking string, and monofilament is made of polymer, glass, metal, or ceramic
Derwent Class: A35; A84; F07; P24; P54; P73
International Patent Class (Main): A46B-001/00; A46B-009/04; A46D-003/04; B23B-031/20; B32B-031/20
International Patent Class (Additional): A46B-003/18; B23B-005/08; B32B-005/08

11/34/8 (Item 8 from file: 350)
DIALOG(R) File 350:Derwent WPIX
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011834053 **Image available**
WPI Acc No: 1998-250963/199822

Bristle for electric toothbrush - comprises several interconnected filaments which are wound or braided and chemically welded to one

Serial 10/419746

June 21, 2004

another and consists of plastics material

Patent Assignee: BRAUN AG (BRAG); BRAUN GMBH (BRAG)

Inventor: DRIESEN G; FIRATLI A C; HANS R; SCHAEFER N; SCHWARZ-HARTMANN A

Number of Countries: 079 Number of Patents: 012

Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week
WO 9814090	A1	19980409	WO 97EP5221	A	19970924	199822 B
DE 19640853	A1	19980416	DE 1040853	A	19961002	199822
AU 9745566	A	19980424	AU 9745566	A	19970924	199835
AU 708947	B	19990819	AU 9745566	A	19970924	199945
EP 957711	A1	19991124	EP 97943890	A	19970924	199954
			WO 97EP5221	A	19970924	
CN 1232373	A	19991020	CN 97198502	A	19970924	200009
BR 9712195	A	20000125	BR 9712195	A	19970924	200022
			WO 97EP5221	A	19970924	
US 6141819	A	20001107	WO 97EP5221	A	19970924	200059
			US 99283802	A	19990401	
JP 2001501511	W	20010206	WO 97EP5221	A	19970924	200111
			JP 98516197	A	19970924	
RU 2175518	C2	20011110	WO 97EP5221	A	19970924	200208
			RU 99108723	A	19970924	
EP 957711	B1	20020109	EP 97943890	A	19970924	200211
			WO 97EP5221	A	19970924	
DE 59706142	G	20020228	DE 506142	A	19970924	200216
			EP 97943890	A	19970924	
			WO 97EP5221	A	19970924	

Priority Applications (No Type Date): DE 1040853 A 19961002

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 9814090 A1 G 26 A46D-001/00

Designated States (National): AL AM AT AU AZ BA BB BG BR BY CA CH CN CU
CZ DK EE ES FI GB GE GH HU IL IS JP KE KG KP KR KZ LC LK LR LS LT LU LV
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG
US UZ VN YU ZW

Designated States (Regional): AT BE CH DE DK EA ES FI FR GB GR IE IT
KE LS LU MC MW NL OA PT SD SE SZ UG ZW

DE 19640853 A1 5 A46D-001/00

AU 9745566 A

Based on patent WO 9814090

AU 708947 B

Previous Publ. patent AU 9745566

Based on patent WO 9814090

EP 957711 A1 G

Based on patent WO 9814090

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LT
LV NL PT SE SI

BR 9712195 A

A46D-001/00

Based on patent WO 9814090

US 6141819 A

D02G-003/00

Cont of application WO 97EP5221

JP 2001501511 W

22 A46D-001/00

Based on patent WO 9814090

RU 2175518 C2

A46D-001/00

Based on patent WO 9814090

EP 957711 B1 G

A46D-001/00

Based on patent WO 9814090

Designated States (Regional): AT BE CH DE DK ES FI FR GB GR IE IT LI LT
LV NL PT SE SI

DE 59706142 G

A46D-001/00

Based on patent EP 957711

Based on patent WO 9814090

Abstract (Basic): WO 9814090 A

The **bristles** (12) consist of a plastics material and has an
number of **filaments** (13-15) connected to each other. At the free end
(17) of the **bristle** an outward splicing (18) may be provided. Each

bristle may be provided with 2-8 **filaments** , preferably 3 or 4 **filaments** and these are connected to each other by **winding** or braiding and are chemically welded together. The **filaments** of the **bristle** may have different diameters, such as between 0.0762 mm (3 **mil**) and 0.127 mm (5 **mil**).

A somewhat central **filament** has a higher rigidity and is surrounded by **filaments** with a lesser rigidity. The **winding** or braiding of the **bristle** is periodically formed. The period has a preferable value between approximately 1.0 mm and approximately 3.0 mm. The **filaments** may be of polyamide, polyester and/or of polypropylene.

ADVANTAGE - Guarantees a high cleaning effect, preventing the formation of hollow spaces between **bristle filaments** where bacteria may form.

Dwg.4/5

Derwent Class: A96; P24; P32

International Patent Class (Main): A46D-001/00; D02G-003/00

International Patent Class (Additional): A61C-017/22; D01D-005/38;
D01F-006/06; D01F-006/60; D01F-006/62; D02G-003/44; D07B-005/08

File 348:EUROPEAN PATENTS 1978-2004/Jun W02

File 349:PCT FULLTEXT 1979-2002/UB=20040617,UT=20040610

Set Items Description

S1 35931 BRUSH OR BRUSHES OR MASCARABRUSH? OR MASCARA()BRUSH? ? OR -
HAIRBRUSH? OR TOOTHBRUSH? OR BOTTLEBRUSH? OR NAILBRUSH? OR PA-
INTBRUSH?
S2 269045 TWIST? OR WOUND OR WRAP? OR TWINE? OR TWINING OR SPIRAL? OR
WINDING
S3 276400 FIBER? ? OR FIBRE? ? OR FIBROUS OR FILAMENT? ? OR BRISTLE? ?
S4 796323 CORE OR CORES OR CENTER? ? OR CENTRE? ? OR CENTRAL OR MIDDLE
S5 447092 DIAMETER? ? OR DIAMETRE? ?
S6 36851 MIL OR MILS
S7 6981 IC=(A45D OR A46B)
S8 799 S1(S)S2(S)S3
S9 378583 CROSS()SECTION???
S10 5154 S5(1N)S9
S11 11 S8(S) (S6 OR S10)
S12 6 S11 AND S7
S13 5 S11 NOT S12 [not relevant]
S14 9 S2(S)S3(S) (S6 OR S10) AND S7
S15 3 S14 NOT S11

12/3,AB,K/1 (Item 1 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01324696

Zoned mascara brush and package including the brush

In Zonen eingeteilte Mascaraburste und Verpackung fur die Burste

Brosse mascara a zones et emballage l'incluant

PATENT ASSIGNEE:

HENLOPEN MANUFACTURING CO., INC., (717160), Melville Park Road, Melville,
N.Y. 11747, (US), (Applicant designated States: all)

INVENTOR:

Schrepf, Volker, 121 Keswick Drive, East Lip, New York 11730, (US)

LEGAL REPRESENTATIVE:

Pigasse, Daniel et al (80001), Pechiney, Immeuble "SIS" 217, cours
Lafayette, 69451 Lyon Cedex 06, (FR)

PATENT (CC, No, Kind, Date): EP 1129641 A2 010905 (Basic)
EP 1129641 A3 010912

APPLICATION (CC, No, Date): EP 2001420042 010220;

PRIORITY (CC, No, Date): US 183851 P 000222; US 191377 P 000322

DESIGNATED STATES: DE; FR; GB; IT

EXTENDED DESIGNATED STATES: AL; LT; LV; MK; RO; SI

INTERNATIONAL PATENT CLASS: A46B-009/02

ABSTRACT EP 1129641 A3

A **twisted-in-wire mascara brush** constituted of one or more zones
(30,34,38) of mascara-absorptive material such as cotton **fibers** or
polymeric sponge material alternating with one or more zones
(28,32,36,40) of **bristles or fibers** substantially nonabsorptive to
mascara along the length of the **brush**. A package of mascara includes a
container (44) holding a body of mascara and an applicator brush
constituted of alternating zones of material absorptive to the mascara
and bristles or fibers nonabsorptive to the mascara.

ABSTRACT WORD COUNT: 79

NOTE: Figure number on first page: 1

LANGUAGE (Publication,Procedural,Application): English; English; English

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
CLAIMS A	(English)	200136	680
SPEC A	(English)	200136	2453
Total word count - document A			3133
Total word count - document B			0
Total word count - documents A + B			3133

...SPECIFICATION to constitute the absorbent material.

In an illustrative but non-limiting specific example of a **brush** according to the present invention, the **bristles** 18 are hollow nylon **fibers** having a diameter of 0.006 (+-) 0.0005 inch, and the absorptive material is constituted of (solid) cotton **fibers**. The profile of the **brush** is cylindrical from end to end of the **brush** body, with a **cross-sectional diameter** of 0.180 inch and a length of 1-1/8 inch. The wire is stainless steel type 305 wire, with a diameter of 0.0286 inch, and is **twisted** so that the **brush** body occupies about 15 turns or coils, (+-) one turn. The three zones of cotton **fibers** (which are trimmed to the same 0.180 inch diameter as the zones of hollow nylon **fibers**) are spaced 0.270 inch apart on midpoints; the axial dimension from the midpoint of the third zone 38 of cotton **fibers** to the distal end of the core is 0.325 inch, while the distance from the proximal end of the **brush** body to the midpoint of the first zone 30 of cotton **fibers** is 0.270 inch. The total count of hollow nylon **fibers** 18, from end to end of the **brush**, is 640 (+-) 45. The proximal extremity of the core extends for 1/4 inch beyond the **brush** body, and is coined, for mounting in the stem 20 of a cap 22...

12/3,AB,K/2 (Item 2 from file: 348)

DIALOG(R)File 348:EUROPEAN PATENTS

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01052071

Brush, particularly for medical and pharmaceutical use

Burste, insbesondere fur medizinische oder pharmazeutische Verwendung

Brosse, notamment a usage medical ou pharmaceutique

PATENT ASSIGNEE:

PONZINI S.p.A., (1557940), Via Vittorio Veneto, 68, 20020 Lazzate
(Milano), (IT), (applicant designated states:

AT;BE;CH;CY;DE;DK;ES;FI;FR;GB;GR;IE;IT;LI;LU;MC;NL;PT;SE)

INVENTOR:

Ponzini, Eligio, Via Frua ,20, 20146 Milano, (IT)

LEGAL REPRESENTATIVE:

Faggioni, Giovanmaria, Dr. et al (42221), Fumero-Studio Consulenza

Brevetti Franz-Joseph-Strasse 38, 80801 Munchen, (DE)

PATENT (CC, No, Kind, Date): EP 928577 A1 990714 (Basic)

APPLICATION (CC, No, Date): EP 99100418 990111;

PRIORITY (CC, No, Date): IT 98MI10 980112

DESIGNATED STATES: AT; DE; ES; FR; GB; IT; NL

INTERNATIONAL PATENT CLASS: A46B-009/02

ABSTRACT EP 928577 A1

Brush, in particular for medical or pharmaceutical use, of the type comprising a plurality of **bristles** mounted on a mounting support comprised of a double **spirally twisted** wire, in which said **bristles** are gripped between the **spirals**. According to the invention, said **bristles** consist of **filament** yarns with a diameter of less than 0,05 mm (2 **mils**) and preferably 0,01 mm, said **filament** yarns being distributed with a density of 250 to 400 yarns per turn of the mounting

support.

ABSTRACT WORD COUNT: 81

LANGUAGE (Publication,Procedural,Application): English; English; Italian

FULLTEXT AVAILABILITY:

Available Text	Language	Update	Word Count
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CLAIMS A	(English)	9928	227
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SPEC A	(English)	9928	1731
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Total word count - document A	1958
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Total word count - document B	0
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Total word count - documents A + B	1958
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CLAIMS 1. **Brush**, in particular for medical and pharmaceutical use, of the type comprising a plurality of **bristles** mounted on a mounting support comprised of a double **spirally twisted** wire in which said **bristles** are gripped between the **spirals**, characterized in that said **bristles** consist of **filament** yarns with a diameter of less than 0,05 mm (2 **mils**), said **filament** yarns being distributed with a density of 250 to 400 yarns per turn of the...

12/3,AB,K/6 (Item 4 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00266188

DUAL WIPER MASCARA PACKAGE HAVING RESIDUAL CHAMBER WITH BYPASS CHANNEL
TUBE DE MASCARA A DOUBLE BROSSE POURVU D'UNE CHAMBRE RESIDUELLE ET D'UN
CANAL DE DERIVATION

Patent Applicant/Assignee:

THE PROCTER & GAMBLE COMPANY,

Inventor(s):

DIRKSING Robert Stanley,

MILLER David Todd,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9414357 A1 19940707

Application: WO 93US12020 19931209 (PCT/WO US9312020)

Priority Application: US 92993285 19921218

Designated States: AU BB BG BR BY CA CZ FI HU JP KP KR KZ LK LV MG MN MW NO
NZ PL RO RU SD SK UA UZ VN AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT
SE BF BJ CF CG CI CM GA GN ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 5125

English Abstract

A cosmetic product package, particularly a mascara package, including a dual wiper mechanism which virtually eliminates the messiness problems of typical mascara applicators. The dual wiper mechanism has a resilient inner wiper (70) and a resilient outer wiper (41) spaced apart from one another within a supporting structure (42) forming a residual mascara chamber (52) therebetween. The inner wiper (70) has a relatively small opening which provides most of the doctoring of the **bristles** (91). The outer wiper (41) has a larger opening which primarily doctors the stem (86). Mascara which collects in the residual chamber flows through conduits (47, 65) around the inner wiper back into the primary reservoir (35), or alternatively to a discard reservoir (195). A mechanism to doctor more mascara from the brush upon insertion than upon removal of the brush may also be provided.

Main International Patent Class: A45D-040/26

Fulltext Availability: Detailed Description

Detailed Description

... of residual product reservoir 52.
Referring to Figure 6, the package 20 is illustrated with **twisted** wire 92 and **bristles** 91 within dual wiper mechanism 40. The 15 primary purpose of the dual wiper mechanism 40 is to ensure an appropriate quantity of mascara is applied to the **bristles** 91 of the **brush** portion 80. In addition to providing this basic requirement, the dual wiper mechanism 40 further provides a clean stem 85 and virtually no tail on the **brush** portion 80. Excess mascara (not 20 shown) from primary reservoir 35 is squeezed from **bristles** 91 by primary wiper 70. Little additional wiping action occurs at secondary wiper 41,
Referring to Figure 7. the package 20 is illustrated with the **brush** portion 80 about to exit primary wiper 70, The small 25 opening 71 of...
...approaches its relaxed condition, cause primary wiper 70 to close about the trailing end of **brush** portion 80, thereby removing virtually all the trailing mascara that tends to adhere to the outgoing **brush** portion 80 end. Thus, the diameter of the opening 71 in the primary wiper 70...
...is removed from the primary wiper 70, A tail is "significant" if it falls off **brush** portion 80, or otherwise negatively contacts the consumer during the normal process of applying mascara...
...diameter of opening 71 is about 35 the same or less than the diameter of **twisted** wire 92 (i.e., distal end of stem 85),
Furthermore, dual wiper mechanism 40 of the present invention enables the use of non-standard **brush** shapes. For example, **bristles** 91 of this embodiment extend radially in all directions from **twisted** wire portion 92 of stem 85 so that the **bristles** 91, in aggregate, provide a circular **cross-section**. The **diameter** of the cross-section created by **bristles** 91 is about equal to the diameter of plastic portion 86 of stem 92, This...
...packages, allowing greater control during application. Another example, illustrated in Figures 14 and 15, has **bristles** 291 and 391, respectively, which extend mostly in one direction while the opposing side of the supporting **twisted** wire 292 and 392, respectively, is void of all **bristles**. Other variations (not seen) of **brush** design, such as a **brush** having **bristles** extending in four directions only (i.e., such that the aggregate **bristle** cross-section forms an "X") are practical with the dual wiper mechanism 40 of the...
...invention,
Referring to Figures 8 and 9, subsequent to applying mascara to the eyelashes using **brush** portion 80, the user of mascara package 20 reinserts stem 85 of **brush** portion 80 back into bottle portion 30, either in preparation for closure and storage or in preparation for further mascara application. Although **bristles** 91 of **brush** portion 80 may encounter some minor wiping action as **bristles** 91 pass through opening 44 of secondary wiper 41, the smaller opening 71 in primary wiper 70 effects considerably more constriction and thus, wiping of **bristles** 91 of **brush** portion 80. In fact, the shape and size of secondary wiper 41 are preferably such that virtually no significant wiping action occurs upon reinsertion of the **bristles** 91 and stem 85 of **brush** portion 90. Thus, mascara will not build up on the stem 85, outboard of the...

Serial 10/419746

June 21, 2004

15/3,AB,K/3 (Item 3 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT

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00778841

**TOOTHBRUSH AND METHOD FOR MAKING A TUFT OF BRISTLES USABLE IN A TOOTHBRUSH
BROSSE A DENTS ET PROCEDE DE FABRICATION D'UNE TOUFFE DE POILS DESTINEE A
UNE BROSSE A DENTS**

Patent Applicant/Assignee:

GILLETTE CANADA COMPANY, 4 Robert Speck Parkway, Mississauga, Ontario L4Z
4C5, CA, CA (Residence), CA (Nationality), (For all designated states
except: US)

Patent Applicant/Inventor:

CHIANG Casper Wen-Tien, 860 Turrini Drive, Danville, CA 94526, US, US
(Residence), US (Nationality), (Designated only for: US)

FENG Yan, 1894 Flagstone Drive, Union City, CA 94587, US, US (Residence),
CN (Nationality), (Designated only for: US)

ZAPANTA Edgardo Gotangco, 3203 Shelter Creek Lane, San Bruno, CA 94066,
US, US (Residence), US (Nationality), (Designated only for: US)

BEALS Donna, 840 Talisman Drive, Sunnyvale, CA 94087, US, US (Residence),
US (Nationality), (Designated only for: US)

ROBERTS Michael F, 453 Commercial Street, Braintree, MA 02184, US, US
(Residence), IE (Nationality), (Designated only for: US)

CASTILLO Bradley, 2409 Talavera Drive, San Ramon, CA 94583, US, US
(Residence), US (Nationality), (Designated only for: US)

LIM Gary, 1511 27th Avenue, San Francisco, CA 94122, US, US (Residence),
US (Nationality), (Designated only for: US)

TUNGOL Joseph E, 32766 Hilmar Street, Union City, CA 94587, US, US
(Residence), US (Nationality), (Designated only for: US)

YANG Andy, 5041 St. Garrett Court, Concord, CA 94521, US, US (Residence),
US (Nationality), (Designated only for: US)

Legal Representative:

GALLOWAY Peter D, Ladas & Parry, 26 West 61st Street, New York, NY 10023, US

Patent and Priority Information (Country, Number, Date):

Patent: WO 200112013 A1 20010222 (WO 0112013)

Application: WO 2000US22377 20000815 (PCT/WO US0022377)

Priority Application: US 99375715 19990817

Designated States: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ

DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ

LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG

SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 10270

English Abstract

A **toothbrush** (94) includes a handle (96), a head (92) extending from the
handle (96) and a tuft of **bristles** (88) which are joined together at a
based end of the bristles and secured to the head (92) at the base end.
The tuft has a width (A) and a length (B). A ratio of the width to the
length (A/B) is about 0.25 or less.

International Patent Class: **A46B-003/06**

Fulltext Availability: Detailed Description

Detailed Description

... spiral center 266 to the spiral exterior 268.

In addition, the center 266 of the **spiral** pattern 224 of the tuft 220 can define an open area 270, as shown in Figs. 19A-C. The open area 270 may be devoid of **bristles**, or may include additional **bristles** 272, tufts of **bristles** including the above-described **spiral** tufts 220, or a combination thereof. The tufts - 19 can be arranged in a variety of combinations. Referring to Fig. 19C, for example, a **spiral** tuft 220A having a relatively large **cross - sectional diameter** and a center space 270 can be combined with a second **spiral** tuft 220B having a relatively small crosssectional diameter such that the second **spiral** tuft 220A is positioned entirely within the first **spiral** tuft 220A. In Fig. 19B, the center 270 of the **spiral** tuft 220 includes a second tuft 280 of **bristles** 272, e.g., a tuft of **bristles** formed by conventional tufting methods...